

Amendments To The Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1 – 21 (canceled)

22. (currently amended) A measuring device for locating a partial discharge on a conductor bar that has electrical external insulation in a dynamo-electrical machine, comprising:

a first sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the first sensor being designed to emit a first partial discharge output signal that reflects a first detection time and is applied to the first sensor; and

a second sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the second sensor being designed to emit a second partial discharge output signal that reflects a second detection time and is applied to the second sensor and the second sensor arranged at a distance from the first sensor on the conductor bar,

whereby the first partial discharge output signal and the second partial discharge output signal are supplied to an evaluation unit which is designed to locate the partial discharge on the conductor bar;

wherein the evaluation unit has a time difference module with a first time difference signal input, a second time difference signal input and a time difference output, with the first partial discharge output signal being applied to the first time difference signal input, and the second partial discharge output signal being applied to the second time difference signal input with the evaluation unit being designed such that a time difference between the arrival of the first partial discharge output signal from the first sensor at the time difference module and the arrival of the second partial discharge output signal from the second sensor at the time difference module is determined and is produced as the time difference output signal at the time difference output with the evaluation unit having a calculation module with a calculation input to which the time difference output signal is applied, and which is designed such that a partial discharge location value is calculated, which indicates the point of origin of the partial discharge on the conductor bar.

23. (canceled)

24. (currently amended) The measuring device as claimed in claim ~~23~~22 wherein the evaluation unit is designed to determine a partial discharge location value using the equation $l1 = (l + v \cdot Dt)/2$ where l is a distance between the first sensor and the second sensor, $l1$ is a distance between a point of origin of the partial discharge and a centre between the first sensor and the second sensor, v is a propagation speed of the partial discharge, and Dt is a time difference.

25. (previously presented) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is a capacitively acting sensor.

26. (previously presented) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is an inductively acting sensor.

27. (previously presented) The measuring device as claimed in claim 22, wherein the first sensor or the second sensor is a direct-axis voltage sensor.

28. (previously presented) The measuring device as claimed in claim 22, wherein the measuring device is arranged to be used in a generator.

29. (previously presented) The measuring device as claimed in claim 22, wherein the measuring device is arranged to be used in a transformer.

30 - 42. (canceled)

43. (new) A measuring device for locating a partial discharge on a conductor bar that has electrical external insulation in a dynamo-electrical machine, comprising:

a first sensor disposed at a first location along the conductor bar and producing a first partial discharge output signal upon detection of the partial discharge;

a second sensor disposed at a second location along the conductor bar and producing a second partial discharge output signal upon detection of the partial discharge;

a means for producing a time difference output signal responsive to the first and second partial discharge output signals; and

means for calculating a partial discharge location responsive to the time difference output signal.

44. (new) A measuring device for locating a partial discharge on a conductor bar that has electrical external insulation in a dynamo-electrical machine, comprising:

a first sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the first sensor being designed to emit a first partial discharge output signal that reflects a first detection time; and

a second sensor that is designed to detect signals that are caused by the partial discharge and propagating along the conductor bar with the second sensor being designed to emit a second partial discharge output signal that reflects a second detection time and the second sensor arranged at a distance from the first sensor on the conductor bar;

a time difference module producing a time difference between the first and second discharge output signals; and

a calculation module determining a location of the partial discharge responsive to the time difference.